

**Amendments to the Claims:**

Please replace all prior versions, and listings of claims in the application with the following listing of claims.

**Listing of claims**

Claim 1 (currently amended): A passive mixer (~~100; 300~~) for converting a first signal having a first frequency to a second signal having a second frequency, comprising:

mixing means (~~110; 310, 320, 330, 340~~), a first terminal (~~120~~), a second terminal (~~130~~) and a third terminal (~~140~~), for providing the second signal by mixing a third signal having a third frequency provided as input at said second terminal and the first signal provided as input at either the first or the third terminal; and

~~characterized by~~

a feedback circuit (~~150; 311, 321, 331, 341~~) operatively connected to said third (~~140~~) and said second terminal (~~130~~).

Claim 2 (currently amended): The mixer according to claim 1, ~~characterized in that~~ wherein the feedback circuit (~~150; 311, 321, 331, 341~~) is a bootstrap circuit.

Claim 3 (currently amended): The mixer according to claim 1 ~~or 2, characterized in that~~ wherein the feedback circuit (~~150; 311, 321, 331, 341~~) comprises a low pass filter (~~160~~).

Claim 4 (currently amended): The mixer according to claim 3, ~~characterized in that~~ wherein the filter (~~160~~) comprises a capacitor (~~162, 313, 323, 333, 343~~) connected between said second terminal and said mixing means, and a resistor (~~161; 312, 322, 332, 342~~) connected between said third terminal and the connection between said capacitor and said mixing means.

Claim 5 (currently amended): The mixer according to ~~any of the previous claims~~ claim 1, ~~characterized in that~~ wherein said mixing means is a voltage controlled switch.

Claim 6 (currently amended): The mixer according to ~~any of the previous claims~~ claim 1, ~~characterized in that wherein~~ said mixing means comprises a FET transistor switch (~~111; 310, 320, 330, 340~~) having either its drain or source operatively connected to said first terminal, its gate operatively connected to said second terminal, and either its source or drain operatively connected to said third terminal.

Claim 7 (currently amended): The mixer according to claim 6, characterized in that said FET transistor is ~~[[a]]~~ an NMOS transistor.

Claim 8 (currently amended): The mixer according to ~~any of the previous claims~~ claim 1, ~~characterized in that wherein~~ the mixer is a balanced mixer comprising an even number of mixing means.

Claim 9 (currently amended): ~~Use of the~~ The mixer according to ~~any of the claims 1-8~~ claim 1, wherein the mixer is included in electronic equipment (~~1, 30~~).

Claim 10 (currently amended): ~~Use~~ The mixer according to claim 9, wherein the electronic equipment is a portable communication equipment (~~1, 30~~) having a supply voltage of less than 2V.

Claim 11 (currently amended): ~~Use~~ The mixer according to claim 9 ~~or 10~~, wherein the electronic equipment is a mobile radio terminal, a mobile telephone (~~1~~), a pager, or a communicator.

Claim 12 (currently amended): ~~Use~~ The mixer according to claim 9, wherein the electronic equipment is adapted to operate in a wireless local area network.

Claim 13 (currently amended): ~~Use~~ The mixer according to claim 9 ~~or 10~~, wherein the ~~mixer is used in a~~ electronic equipment is communication equipment (~~30~~) adapted to provide short-range supplementary communication according to ~~Bleuteeth~~<sup>®</sup> Bluetooth<sup>®</sup> technology.

Claim 14 (currently amended):      Apparatus comprising ~~the mixer (300) according to any of the claims 1-8, said mixer is connected to a low noise amplifier (LNA) (400) comprising:~~

a mixer; and

a low noise amplifier,

wherein:

the mixer comprises:

mixing means, a first terminal, a second terminal and a third terminal, for providing the second signal by mixing a third signal having a third frequency provided as input at said second terminal and the first signal provided as input at either the first or the third terminal; and

a feedback circuit operatively connected to said third and said second terminal;

the mixer is connected to the low noise amplifier; and

the low noise amplifier comprises:

a first input terminal (401) connected to a first capacitor (410) being connected to a first amplifying means (411), said first amplifying means is connected to a first output terminal (430) and to voltage supply via a first inductor (412);

a second input terminal (402) connected to a second capacitor (420) being connected to a second amplifying means (421), said second amplifying means is connected to a second output terminal (431) and to voltage supply via an second inductor (422); and

wherein the first and second amplifying means (411, 421) are referenced to grounding means, and the first and second output terminals (430, 431) are referenced to said grounding means via third and fourth inductors (432, 433).